APPENDIX E

INTRODUCTION TO THE LAPTOP COMPUTER FOR AUDIO-CASI

A. Overview

Two terms are used quite often when talking about computers: hardware and software. It is important that you are able to distinguish between the two. **Hardware** is the physical computer and all of its components. As a rule of thumb, if you can touch it, it is hardware. Examples are the computer itself, the power cord, and the headphones. **Software** is the set of programs, procedures and computer code that guide the operation of your computer. You generally cannot touch software; it is stored in your computer hardware. The program in which the Project HOPE Screening Questionnaire is written is considered software.

This appendix concerns itself only with computer hardware and setting up the computer for the respondent. It includes information on powering the computer, the layout of the keyboard, and the meanings or functions of various lights and switches on the computer. All of the information that you will need to implement the Screening Questionnaire is contained here. However, if you cannot find an answer to a question, or you believe that you need explanation beyond what is provided in these chapters, please contact Kennan Beckett at Research Triangle Institute (RTI).

B. Caring for the Computer

To collect the Audio-CASI data you will use a laptop computer equipped with headphones. The computer has an integrated touch screen. When the screen is touched at certain spots, the answers will automatically be recorded in an electronic file or database.

Although the screen will respond to any touch, you and the respondents should use only your fingers or the stylus provided with the computer--preferably the stylus. The reason for this is that a sharp point such as a pen or pencil point may damage the surface of the touch screen. The stylus is preferred over fingers because it has a small point indicating a more precise area of the screen. This will result in more accurate data.

There are a number of things that you can do to ensure that your computer continues to operate properly for the duration of the data collection period. While it may be difficult to follow some of these rules in the hospital clinics, all attempts should be made to do so.

1. <u>When moving or transporting the computer, take special care not to bump it into objects.</u> The more jolts the computer takes, the sooner it is likely to malfunction. A not-so-light shock can permanently damage the computer.

2. Do not place heavy objects on the computer.

3. Keep the computer away from sources of extreme heat or cold. For example, do not place or use the computer very near a heater or air conditioner. Extreme temperatures can have a damaging effect on the computer. The computer should be used in temperatures between 40 and 95 degrees. If you have stored the computer in extreme temperature, allow enough time for it to return to "room temperature" before using it.

4. Do not leave the computer plugged into an outlet during an electrical storm. Unplug the computer if an electrical storm occurs while you are working. This is the time to switch to battery power. Leave the computer unplugged overnight.

5. Use the computer where it can have adequate ventilation. Like many household appliances, the computer requires air circulation to keep it from overheating during use. While the amount of circulation required is minimal, you must ensure that the air vents in the computer are not covered during use.

6. Do not eat, drink, or smoke when using the computer. This may be the most difficult rule to follow in the field. If following it means that there is a chance of offending a respondent (and thus losing the interview), you may disregard this rule. However, keep in mind that exposing the computer to food particles, liquids, or smoke can cause it to fail to operate.

7. Never spray any cleaning solution directly onto the computer. If you want to clean your computer, use a clean, slightly damp cloth. You can use a small amount of rubbing alcohol to clean the screen. All cleaning solution should be applied to the cloth and not sprayed directly onto the computer.

   If you do spill liquids, including cleaning solution, on the computer, allow the liquid to dry thoroughly before using the computer. Failure to do so will almost always result in damage to the machine.

8. Do not put anything on the computer keyboard. If you accidentally close the computer with something on the keyboard, e.g. a pencil, you will damage the computer screen.

9. Never pick up the computer by the screen. The computer screen is the weakest part of the machine. If you pick the computer up by the screen (when it is open), you risk serious damage to the machine.

10. Do not attempt to use a power adapter other than the one that is supplied

with the computer. Using the wrong adapter will damage the computer.

11. Never leave your computer in your car (even in the trunk). In addition to increasing the likelihood of theft, keeping the computer in a car often exposes it to extreme temperatures that can harm it.

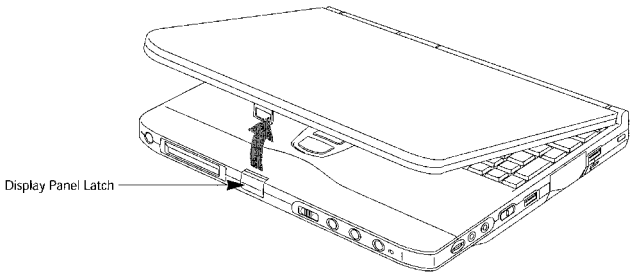
12. Do not touch the touch screen with a sharp instrument. This can scratch the screen and result in incorrect data collection.

13. Lock up the laptop over night, and do not leave it unattended in unsecure areas during the day. A laptop is portable and valuable and as such is often stolen.

14. If the notebook is beeping and/or the battery level indicator is blinking, the battery is running low. Plug in the computer during the day when it is not in use. This will recharge the battery. However, be mindful of the weather and the possibility of electrical storms, for they can damage your computer if it is plugged in (see Item 4 above).

C. Opening and Closing the Computer

When opening and closing the computer, place it on a flat surface with the hinged side away from you. To open the computer and display the screen and keyboard, follow these steps:



- With the computer facing you, locate the display panel latch (the light grey button near the center of the front panel).

- Push on the latch. This releases the lock. Open the display by lifting it backwards. To avoid damaging the display panel, do not force the panel back too far.

The computer should be closed for storage. Follow these steps to close the computer:

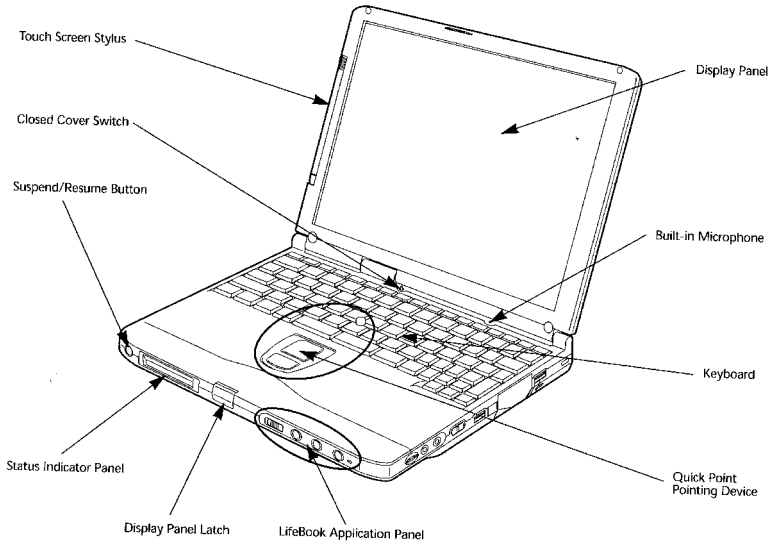
- Holding the edge of the display panel, pull it forward until it is flush with the body of the computer.

- Push down until you hear a click. This engages the locking mechanism and ensures that the display panel doesn't open unexpectedly.

D. Internal Computer Components

The laptop computer consists of many different parts including various switches, lights, and ports for attaching optional equipment. While you will not use all of these components, it is important for you to become accustomed to the ones you will use. They are described in the following pages.

1. The Computer with the Display Raised



- Display Panel. The display panel is equipped with a touch screen, which allows a user to enter her responses by simply touching the appropriate answer field on the screen.

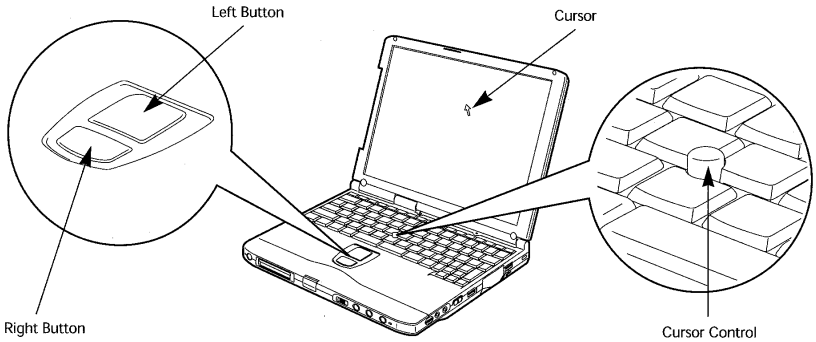
- Touch Screen Stylus. The stylus is used by the respondent to enter her responses. By simply touching the answer field on the touch screen, her response will be saved in the computer. The stylus is held in a compartment on the left side of the display panel.

- Closed Cover Switch. This switch turns off the LCD back lighting when the display panel is closed.

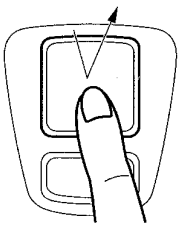
- Built-In Microphone. The built-in microphone will not be used for this study.

- Keyboard. This is where you type information. This keyboard provides all the functionality of a full-sized keyboard.

- QuickPoint Cursor Control. Part of the Quick Point Pointing Device, this is used to move the cursor. To move the cursor, gently push the cursor control in the direction that you want the cursor to move. Pushing harder on the cursor control moves the cursor faster.



- Quick Point Buttons. The buttons let you access commands in your programs. The upper button acts as the left button on a regular mouse. The lower button acts as the right mouse button. When a step instructs you to click or choose an item, move the cursor to the item, then press and release the upper button. To double-click, click the upper button twice in rapid succession.

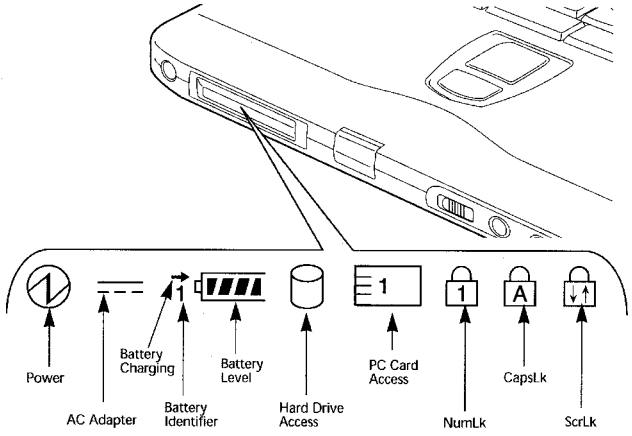


The components of the Front Panel, including the Suspend/Resume Button, the Status Indicator Panel, the Display Panel Latch, and the LifeBook Application Panel, are discussed in the following section.

2. The Front Panel

- Suspend/Resume Button. Your computer will enter suspend mode during periods of inactivity to reduce power consumption and extend the charge of the battery. Open applications will be saved. In order to resume operation from suspend mode, you must use the suspend/resume button.

- Status Indicator Panel. The status indicator panel is located on the front of the computer, to the left of the display panel latch. The lights on this panel provide information about the operation of various system components.



The *Power indicator* tells you whether your system is operational. A steady zigzag symbol indicates that the computer is on. A blinking zigzag symbol indicates that the computer is in suspend mode.

The *AC Adapter indicator* is displayed when the AC adapter is in use. When the indicator is off, power is coming from the battery only.

The *Battery Charging indicator* tells you whether the battery is charging. An arrow is displayed when the battery is charging.

The *Battery identifier* indicates which battery is in use. Since this computer only has one battery, it will read 1, when illuminated.

The *Battery Level indicators* tell you how much charge is available within the battery. The battery charge is low when only one section of the battery is displayed, and it is blinking.

The *Hard Drive Access indicator* is displayed when the internal hard drive is being accessed. Do NOT shut down the computer if this light is on.

The *PC Card Access indicator* indicates whether or not the computer is accessing a PC card. A PC card is not used for this study.

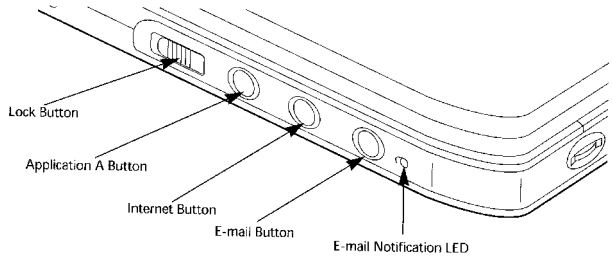
The *NumLk indicator* is displayed when the keyboard is in ten-key numeric keypad mode. This mode allows certain keys to serve dual purposes, as both characters and numbers or mathematical keys. For purposes of this study, NumLk should be off. If it is inadvertently turned on, it can be turned off by pressing the NumLk key.

The *CapsLk indicator* comes on when you press the Caps Lock key. When the CapsLk indicator is displayed, pressing a letter on the keyboard will produce an upper-case (capital) letter. To turn off CapsLk, press the CapsLk key.

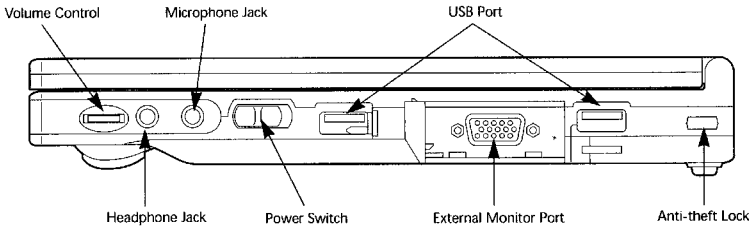
The *ScrLk indicator* is displayed when the scroll lock is activated. ScrLk controls the way that the cursor control keys (the arrow keys for example) work for some programs. ScrLk can be turned off by pressing the ScrLk key.

- Display Panel Latch. This latch is used to open and close the computer.

- LifeBook Application Panel. This panel consists of the Lock Button, the Application A Button, the Internet Button, the E-mail Button, and the E-mail Notification LED. When programmed to do so, the buttons on the panel can be used to launch applications. They are not used for this study.



3. The Right Side Panel



- Volume Control. This can be used to adjust the volume of audio output. When using headphones, the volume can be further adjusted using the volume control device on the headphones.

- Headphone Jack. Headphones are connected through the headphone jack. Note that the headphone jack has a small graphic of a set of headphones slightly above it, to its left.

- Microphone Jack. The microphone jack is not used for this study.

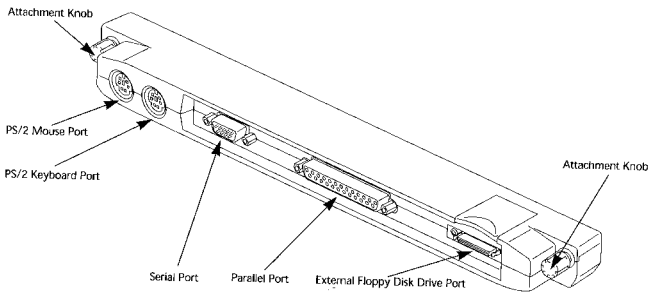
- Power Switch. This is the main power switch for the computer. To turn the computer on, move the switch from the **O** position to the **|** position (toward the back of the computer). To turn the computer off, choose Shut Down from the Windows 98 Start menu. When the black screen appears, you can move the power switch back to the **O** position.

- USB Ports. This computer is not equipped with USB ports.

- External Monitor Port. This computer is not equipped with an external monitor port.

- Anti-theft Lock. This device is not used for this study.

4. The Rear Panel



This computer has been equipped with a Port Replicator, which connects to the rear of the computer and allows for the connection of external devices.

- Attachment Knobs. These are used to connect the port replicator. They need not be adjusted.

- PS/2 Mouse Port. This port is used to connect an external mouse. It is not used for this study.

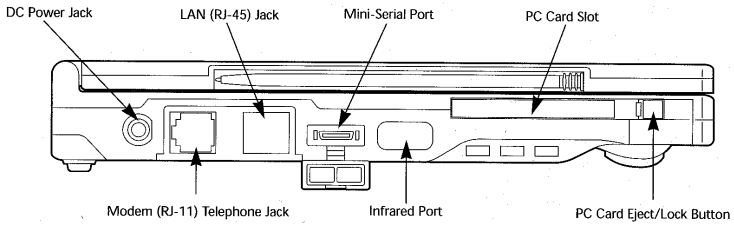
- PS/2 Keyboard Port. This port allows the connection of an external keyboard. It is not used for this study.

- Serial Port. This allows you to connect serial devices. It is not used for this study.

- Parallel Port. This allows you to connect parallel devices. **The printer is connected via the parallel port.**

- External Floppy Disk Drive Port. This is used to attach the external floppy disk drive, as described in Section E.

5. The Left Side Panel



- DC Power Jack. The AC adapter is plugged in through the DC Power Jack. This powers your computer and charges the internal battery.

- Modem (RJ-11) Telephone Jack. This computer is not equipped with a modem telephone jack.

- LAN (RJ-45) Jack. This is not used for this study.

- Mini-Serial Port. This computer is not equipped with a mini-serial port.

- Infrared Port. This port allows you to communicate with another infrared device without a cable. It is not used for this study.

- PC Card Slot. This slot allows you to install a PC Card. It is not

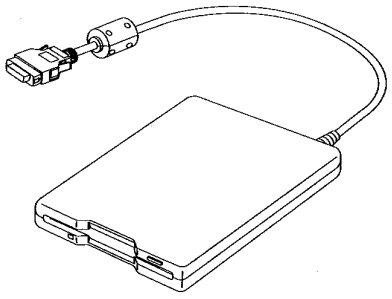
used for this study.

- PC Card Eject/Lock Button. This is not used for this study.

E. External Components

1. External Floppy Disk Drive

You will be required to copy your work to a diskette every day after you have completed data collection. Before doing so, however, you will need to install the external floppy disk drive.



To install the external floppy disk drive, insert the connector into the external floppy disk drive port on the back of the computer. Be careful that the pins in the port line up with the holes in the connector. When you are ready to remove the external floppy disk drive, press the buttons on each side of the connector and pull gently. The connector should slide out easily.

2. Floppy Diskettes

A 3½" floppy diskette is very durable. Nonetheless, you should handle all diskettes with care, or you may lose the data that are on them. When you are through using a diskette, eject it from the drive *before* turning the computer off, and store it in a safe place. Your computer case has pockets for storing diskettes. Also:

- Keep diskettes away from magnets and magnetic fields, like those generated by TVs, telephones, and electric motors.
- Avoid direct sunlight, high temperatures (such as in a car parked in the sun), and excessively humid environments.
- Do not open the shutter or you risk contaminating the delicate surface of the material inside.
- If you apply a label, do so in the recessed area set aside for that purpose.

Don't "stack" labels: remove one before applying another.

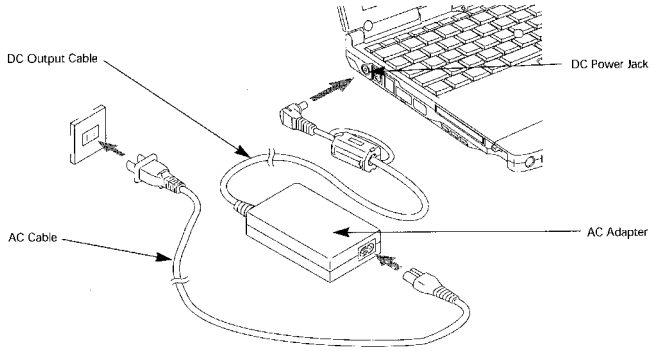
3. Headphones

The headphones should be connected before the computer is turned on. To connect the headphones, insert the headphone connector into the headphone jack on the right side of the computer. It is possible that the headphone connector will be "capped" by a second connector, which does not fit into the headphone jack. If this is the case, the second connector should be removed. This will expose the underlying connector, which may then be inserted into the headphone jack. Be careful not to misplace this second connector.

F. Powering the Computer

1. Using an Electrical Outlet

The laptop can be run on electricity from a wall outlet or a battery source. If there is electric power available, always use that instead of battery power because this saves the charge on the battery for times when no electrical outlet is nearby.



To connect the laptop to an electrical outlet, simply remove the electric cord from the side compartment of the computer case. Insert the end of the DC output cable into the DC power jack at the rear of the left panel of the computer (note that the end of your DC output cable may look slightly different from the one pictured above). Plug the other end of the cord into the wall outlet. You will be given an extension cord to use if the wall
outlet is not easily accessible. Plug the electric cord into the extension cord and the extension cord into the wall outlet.

2. Using Battery Power

Although electric power is preferred, you can operate the laptop on battery power. To do this, simply turn the computer on as described above and proceed with your work. As long as the battery has a good charge, the battery level indicator will display multiple sections (vertical bars inside the battery graphic). When the battery is running low, the battery level indicator will display a single flashing section, and the computer will beep

every 15 seconds.

To recharge the battery, plug the computer into a wall socket until all sections of the battery level indicator are displayed. This should take approximately three hours. You can work during this time if you wish, but if you do so it will take the battery longer to recharge.

If your battery gets to the point that it will not recharge, contact Kennan Beckett at RTI. She will ensure that you receive a new battery and instructions for installing it.